BUSINESS EVALUATION

RECOGNITION EQUIPMENT CORPORATION

HARDWARE MAINTENANCE & SOFTWARE SUPPORT

INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

INPUT OFFICES

North America

Headquarters
1280 Villa Street
Mountain View, CA 94041
(415) 961-3300
Telex 171407   Fax (415) 961-3966

New York
Parsippany Place Corp. Center
Suite 201
959 Route 46 East
Parsippany, NJ 07054
(201) 299-6999
Telex 134630   Fax (201) 263-8341

Washington, D.C.
8298 Old Courthouse Road
Vienna, VA 22182
(703) 847-6870   Fax (703) 847-6872

International

Europe
Piccadilly House
33/37 Regent Street
London SW1Y 4NF, England
(01) 493-9335
Telex 27113   Fax (01) 629-0179

Paris
29 rue de Leningrad
75008 Paris, France
(16) 44-80-48-43
Fax (16) 44-80-40-23

Japan
FKI, Future Knowledge Institute
Saida Building,
4-6, Kanda Sakuma-cho
Chiyoda-ku,
Tokyo 101, Japan
(03) 864-4026   Fax (03) 864-4114

J U L Y   1 9 8 9

BUSINESS EVALUATION

RECOGNITION EQUIPMENT CORPORATION

HARDWARE MAINTENANCE AND SOFTWARE SUPPORT

INPUT®

Y-NUO
1989

BUSINESS EVALUATION

RECOGNITION EQUIPMENT CORP.

HARDWARE MAINT. / SOFTWARE SUPPORT

DATE LOANED	BORROWER'S NAME

Table of Contents

Exhibits

I

Purpose of the Study

I

Purpose of the Study

The PROS Acquisition Corporation, a wholly-owned subsidiary of The Prospect Group, Inc. has requested that INPUT prepare a business evaluation of the hardware maintenance and the software support activity of the Recognition Equipment Corporation. The purpose of the evaluation is to provide information that will assist the PROS Acquisition Corporation in making a decision relative to a tender offer for Recognition Equipment Corporation and the size of that tender offer if made.

This report provides the results of the business evaluation, a description of the methodology used, and recommendations aimed at improving the cash flow, profitability ratio, and total profit dollars from these services.

II

Methodology

II
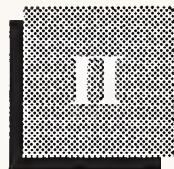
Methodology

The methodology used for this evaluation was heavily influenced by time and by the limited availability of Recognition Equipment records and key management personnel.

A comprehensive briefing document prepared by the First Boston Corporation was reviewed prior to a meeting in Dallas at Recognition Equipment's world headquarters. First Boston Corporation is a financial advisor to Recognition Equipment Corporation. As a result of this review and of discussions with representatives of the Prospect Group, a list of questions and information categories was prepared for use in Dallas. A copy of this information is included in Appendicies A and B of this report.

On Thursday, July 6, 1989 , the key executive team of Recognition Equipment Corporation conducted a briefing for the Prospect Group and its advisors. The briefing covered overviews of the following:

- Markets, Products, and Distribution Capabilities
- Technology
- Image Strategies
- Human Resources
- Postal/Special Products
- Financial

After the meeting, INPUT met with the Vice President of Customer Service to gather the information described in Appendicies A and B as well as to explore answers to other questions raised in the briefing. At the close of the day, it was concluded that additional time would be required to gather the necessary information. Recognition Equipment's files were scheduled for review on Sunday, July 9 and set up in a data room for that purpose; on Monday, July 10 appointments were set up with key service executives and managers to review the questions remaining.

Some of the information requested was not available due to the short time frame. For example, very little detail information was available relative to non-U.S. service other than total manpower, total revenue, and total gross profit.

Data gathered in the areas of customer satisfaction with overall service, customer satisfaction with parts availability, service price as a percent of purchase price, revenue per field engineer, and hourly service rates were compared with industry data available from INPUT files and other industry studies.

The information obtained above was used in conjunction with INPUT's knowledge of customer service to reach conclusions regarding revenue forecasts, parts inventory levels, service productivity, cost recovery methods, measurement systems, software support, customer satisfaction, and employee satisfaction.

Executive Overview

III
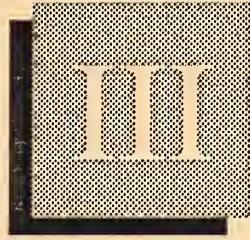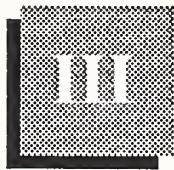
Executive Overview

This report contains a business evaluation of the customer service business area of Recognition Equipment Corporation. The purpose of the evaluation is to provide information that will assist the PROS Acquisition Corporation in making a tender offer for Recognition Equipment Corporation.

The conclusions and recommendations contained in this report represent INPUT's best efforts based upon the information available to INPUT. INPUT has relied upon the accuracy of this information in making its evaluation and has attempted to verify this information where possible and practical. INPUT does not warrant the accuracy of this information however, and inaccuracy of the information could affect the conclusions reached in this report.

The information gathered for this report came from examination of Recognition Equipment files, interviews and presentations with key Recognition Equipment management personnel, and from the company briefing prepared by First Boston Corporation. Comparative information was obtained from INPUT'S data base of customer service information. Very little detail information was available on customer service outside the United States.

Customer Service employs over 1,200 people on a worldwide basis and provides service to over 6,000 customers. Approximately 2,600 of these customers are in the United States, and the remaining are concentrated in Germany, France, Canada, Belgium, and Denmark. Customer Service provided more than half of the corporation's revenue and all of the profit for fiscal year 1988.

The Vice President of Customer Service is responsible for all of customer service in the United States and for the customer service headquarters staff and support organization. He has a dotted line staff responsibility for customer service outside the United States. From a practical standpoint, this has not worked out too well, and as a result, the headquarters

staff in Dallas has very little detail information about service outside the United States.

In general the customer service operation in the United States seems well-managed, and significant improvements have been made by the present management team during the past three years.

Customer satisfaction with parts availability and with software support are below industry norms and will require improvement. The parts availability problem may be a result of undue emphasis by the measurement system on parts inventory levels and possibly can be corrected by redistributing inventory between the field and the Dallas warehouse. The software satisfaction problem is not as severe but certainly should be corrected before the Image product line begins installation.

There are several areas in the cost recovery area that differ from normal industry practice and may result in less overall profit and revenue. For example there is no warranty service included in the purchase contract. There is however a 90-day acceptance test and also 90 days of free maintenance provided to customers who sign a maintenance contract at the time of purchase. This results in six months of maintenance where no revenue is credited for this effort. Most new hardware products in the computer industry carry a one-year warranty, and the cost of the warranty service is charged back to the product cost. Installation service and software support are other features that are not charged back to the product cost at Recognition Equipment.

The present procedure does not provide adequate check and balance to the engineering and manufacturing organization. For example they can ship products with design errors and quality problems, and the service organization is obligated to the correct the problems caused by others without any revenue.

INPUT believes that the major opportunity for improvement in the gross profit margin is by better management of the service pricing function and by increasing the contract prices and the hourly service rates in the United States. There is some evidence that a similar opportunity exists in Europe, and this should be investigated. Additional revenue opportunity may also be available by placing a surcharge on many of the contract options now provided at no charge.

Improvements are possible in the productivity area by implementing 100% time reporting for all service personnel and by putting more balance in the measurement system.

Customer service has 98% of the installed inventory under contract in the United States and has almost no third-party service competition. The major risk in achieving the revenue forecast is the ability of new product sales to offset old equipment being replaced by new technology.

IV

Organization

IV
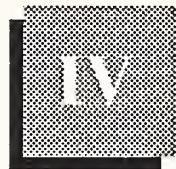
Organization

Customer Service employs over 1,200 people on a worldwide basis providing customer service to over 6,000 customers. Approximately 2,600 of these customers are in the United States and the remaining customers are concentrated in Germany, France, Canada, Belgium, and Denmark. Customer Service provided more than half of the corporation's revenue and all of the profit for fiscal year 1988.

Customer Service provides support for all of Recognition Equipment products. These products include optical character recognition, keyboard data entry, currency processing, and network products. Recently, two new image processing systems were announced, which are aimed at both large- and medium-size applications and are designed to require almost no customer programming to implement.

The Vice President of Customer Service reports to the Vice President of U.S. Operations who reports to the Senior Vice President of Operations who reports to the Chairman and Chief Executive Officer.

The Vice President of Customer Service has both line and staff responsibility for customer service in the United States as outlined in Exhibit IV-1. He is also responsible for providing technical support and parts logistics support to the non-U.S. operation.

He also has responsibility for management and staff advice to the non-U.S. operation on a dotted line basis. Customer Service in non-U.S. countries reports to the General Manager of each country, who is also responsible for sales and product procurement. Interviews with the Customer Service staff and executives in Dallas revealed that this is a very weak dotted-line relationship, and that they have almost no detailed information other than total manpower, total revenue, and gross profit.

EXHIBIT IV-1

CUSTOMER SERVICE ORGANIZATION

```
                        Phil Struve
                      Vice President
                     Customer Service

   Keith McCoil                          Terry Oliver
    Director                              Director
Business Operations                 Technical Operations

    Bob Mirto                            Les Jones
    Director                             Director
 Transport Group                  Logistics/Distribution

  Jerry Jennings                         Bill Kelly
    Manager                          District Manager
Information Systems                     Northeast

  Ken Piszczek                          Phil Hodge
District Manager                    District Manager
   Southeast                          Mid-Atlantic

John Georgacakis                     Chuck Jacobsen
District Manager                    District Manager
   Midwest                            Southwest

 Marlin Brandt                         Jan Plumb
District Manager                    District Manager
   Pacific                            Northwest

  Diane Miller                         Beth Black
    Manager                            Manager
    Finance                        Human Resources
```

The key technical and customer support functions are centralized and located at the headquarters building in Dallas. Exhibit IV-2 provides a organization chart of the functions under the Director of Technical Operations. The Director of Logistics and Distribution provides worldwide parts supply and parts repair from a separate facility also located in Dallas.

EXHIBIT IV-2

TECHNICAL OPERATIONS ORGANIZATION

```
                    ┌─────────────────────┐
                    │    Terry Oliver      │
                    │ Technical Operations │
                    └─────────────────────┘

        ┌─────────────────┐           ┌─────────────────┐
        │  Kellye Dunbar  │           │      TBD         │
        │   Supply Sales  │           │    Secretary     │
        └─────────────────┘           └─────────────────┘

┌──────────────────┐ ┌──────────────────────┐ ┌────────────────────┐ ┌──────────┐
│   Kevin Shade    │ │    Bryan Snyder      │ │    Sue Crofoot     │ │   TBD    │
│Customer Care Ctr │ │ National Tech Support│ │Software Applications│ │ Service  │
│Headquarters Svc  │ │Scanners, Workstations,│ │                   │ │Education │
└──────────────────┘ │  Image, Networks,    │ └────────────────────┘ └──────────┘
                     │     Compscan         │
                     │  Comm. Installation  │
                     │       Teams          │
                     └──────────────────────┘
```
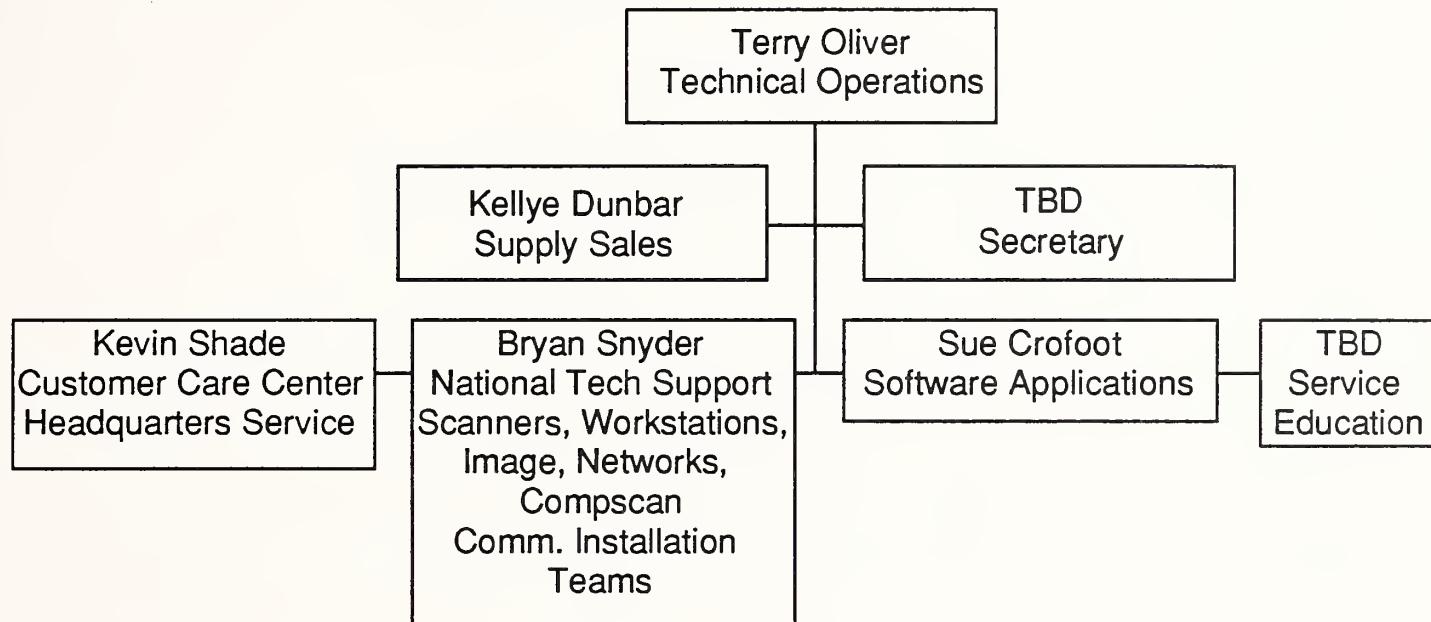
The field organization in the United States is divided into seven geographic districts that are aligned with the sales districts. Exhibit IV-3 displays the organization of each of the seven districts. There are 38 branch offices in the United States and 65 service locations outside the United States.

EXHIBIT IV-3

DISTRICT ORGANIZATION

```
                        ┌─────────────────┐
                        │ District Manager │
                        └─────────────────┘
                                 │
                                 │    ┌──────────────────┐
                                 ├────│ District Secretary│
                                 │    └──────────────────┘
                                 │
┌──────────────────┐  ┌────────────────┐  ┌────────────────┐  ┌──────┐
│Admin. Branch Mgr │  │ Branch Manager │  │ Branch Manager │  │ DSSM │
└──────────────────┘  └────────────────┘  └────────────────┘  └──────┘
```

- Admin. Branch Manager
  - Parts Administration
  - Revenue Tracking
  - Operation Analysis
  - Asset Management
  - Field Administration
- Branch Manager
  - Branch Specialists
  - Field Engineers
- Branch Manager
  - Branch Specialists
  - Field Engineers
- DSSM
  - Systems Specialists
  - Contract Programming
  - Training

Measurement/Management System

V
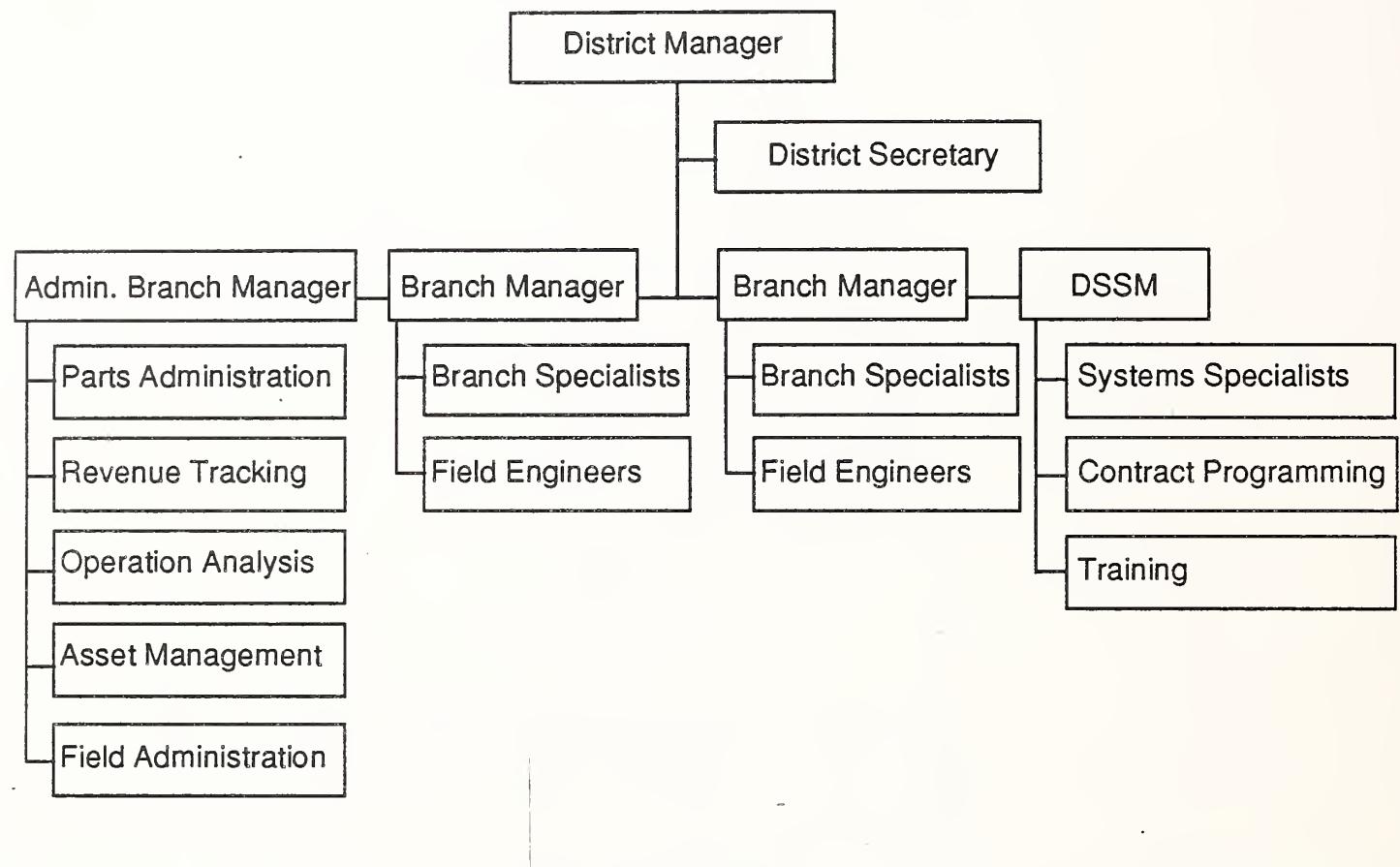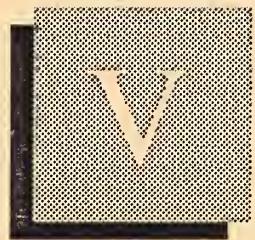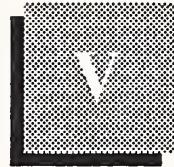
Measurement/Management System

The Vice President of Customer Service executive bonus plan allocates 75% of the bonus on achievement of overall corporate objectives as follows:

- Orders achieved 25%
- Earnings per share achieved 25%
- Corporate cash flow 25%

The remaining 25% is based on Customer Service performance in the following key areas:

- Gross profit margin percent
- Customer satisfaction score
- Employee satisfaction score
- Parts inventory level

The district managers are measured on gross profit margin %, customer satisfaction scores, parts inventory levels as a percent of revenue, and the percent of productive time reported by the field engineers.

The branch managers are measured under a ranking report concept that assigns values for various performance levels in the same four areas on which the district managers are measured.

The introduction of the parts inventory measurement as a percent of revenue has produced dramatic results in terms of reduced parts inventory. There is a danger of causing customer satisfaction problems with parts availability and productivity problems if inventory levels are too low.

A recent Recognition survey rates customer satisfaction with parts availability at 6.5 on a scale of 1 to 10, with 10 being the highest level of satisfaction. The satisfaction level by product category ranged from 4.7 to 10.0. INPUT's 1989 user surveys resulted in an industry norm of 8.0 for both the small- and large-system users. Recognition Equipment is therefore perceived by its users as having a parts availability level well below the industry norm.

Recognition Equipment's field engineers record only the amount of productive time they spend each month. They enter this information via touchtone phone to the call management system. They are not required to record how they spend nonproductive time. The pressure from the measurement system will result in more time being recorded as productive even though they may not take more service calls per day. This can be avoided by going to 100% reporting of all time and putting more balance in the measurement system by also measuring average repair time by product.

Overall satisfaction with customer service in the Recognition survey averaged 7.8 across all products and the satisfaction by product category varies from 6.3 to 10.0. INPUT's user survey results for midrange systems was 8.5 and for large systems was 8.6. A similar survey from PROGNOSTICS in the Recognition files provided a norm across all systems of 8.1 and an average score for Recognition of 8.1. Overall customer satisfaction therefore appears to be slightly low if compared to the INPUT data and about the equal to the industry norm if compared to the PROGNOSTIC data.
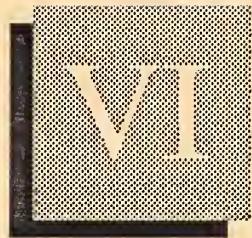
VI

Service Offerings and Cost Recovery Methodology

VI
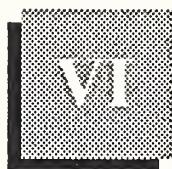
Service Offerings and Cost Recovery Methodology

Recognition Equipment contracts with new customers under a combination product and service agreement that covers the hardware product, the software license, the software support, the installation, and the hardware maintenance. Product lease and purchase are both covered in this document.

Installation is priced separately and there is no warranty after installation. Ninety days of free maintenance is offered to customers who sign a maintenance agreement at the time of purchase. Thirty days of free maintenance is offered to customers who sign a maintenance agreement later.

Customers who had agreements with Recognition prior to October 1988 remain under the old agreements. The old agreements were separate. For example there is a separate Maintenance Agreement and a separate Sales and License Agreement.

A product schedule is attached to each agreement that lists the products ordered, the prices for the products, the maintenance charges, and the installation charges.

The terms and conditions of the various options available are presented on separate sheets and are listed on the product schedule and attached to the contract if ordered by the customer. The options available in the customer service area are as follows:

Options	Code	
90 Days Free Maintenance	90	
30 Days Free Maintenance	30	
99% Performance Level	PD	
97% Performance Level	PC	
95% Performance Level	PB	
90% Performance Level	PA	
Support Source Option	SS	
Electrical Power Option	EP	Waiver
4-Hour Reponse	4R	
2-Hour Response	2R	Surcharge
CPI Index Price Protection	CP	Surcharge
Service Express	SX	Discount
Scheduled Service	SI	Discount
Limited Service	LS	Discount

The performance level options offer a rebate on maintenance charges if system availability drops below the given level. There is a 2% penalty per percent below the objective, but there is a maximum amount or lid on the payments. The performance level offered varies by type of product. Experience with these options at Recognition Equipment, as well as others in the industry, is that very few customers bother to claim the penalties. This has the advantage of offering customers some comfort when they sign the contract and the disadvantage of increasing administrative costs and lowering revenue if the claims are made.

The support source option is available for certain products that can benefit from remote help desk activity in solving both operational and technical problems.

The electrical power option waives certain billable exclusions in the contract if the products are protected by surge protectors or uninterrupted power supplies.

The response time option provides a rebate or penalty against the maintenance revenue if the average response time in a given month falls below the objectives. The penalty is 5% for each hour the objective is missed. History of this option also reveals that very few customers apply for the rebate.

The CPI option limits the amount of maintenance price increase to the amount of movement in the consumer price index.

The remaining options provide discounts for service if the machines are brought to a service exchange center or have very low usage per month, or if the number of scheduled calls is limited to a certain number of trips per month.

Some of Recognition's products are sold with the understanding that the installation is not complete, and the money is not due until an acceptance test is successfully completed. In many cases, these acceptance tests run for 90 days or more. This means the maintenance revenue stream does not flow until 90 days later, and therefore the service force supports the product for six months with no revenue credited to service (90 days free maintenance plus 90 days acceptance test).

Since there is no warranty obligation in the contract, the cost of service caused by faulty manufacture or design is not charged back to the product. This should be changed to motivate manufacturing and engineering to ship a higher quality product and to relieve the service function of a significant cost exposure that they cannot control and for which they receive no revenue.

Consideration should also be given to including installation in the purchase price rather than separately pricing this service. It is certainly to Recognition's advantage to do the installation in order to speed up the payment for the product. It places an unnecessary administrative burden on both Recognition and the customer to handle the billing and accounts receivable for this item.

The Performance Level Options and the 4-Hour Response Option should be surcharged. At the present time the field organization removes these options when pressed by customers for discounts on service. This results in less revenue and in greater administrative costs to handle the various discounted prices.

Cost recovery for software support is apparently bundled with hardware maintenance. Software support should be bundled with the license fee, if possible, or if not possible, it should be separately priced and should include new maintenance releases. Many customers do not need software support at all if they install a software product after it has stabilized. Others require it for only the first year after installation. This will be important as Recognition moves to the Image products that have a large amount of software.

Consideration should also be given to offering more software programs on a monthly license fee basis only. This provides a continuous revenue stream that will help when product sales are erratic. It also has the advantage of covering software updates and support costs that may be greater than were planned.

Finally, it is recommended that all new products be announced with a one-year warranty. A one-year warranty has become almost the standard in the industry and is clearly needed for marketing reasons. If done only for newly announced products, the appropriate cost recovery can be planned so there will be no impact on the total revenue stream.

VII

Pricing

VII
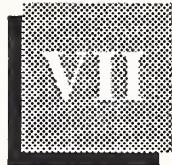
Pricing

Service pricing information was not available for non-U.S. countries. Therefore, the following analysis is based entirely on pricing in the United States.

Recognition Equipment Corporation prices maintenance service on a price-per-box concept. The base charge is for a eight hour block of coverage, Monday through Friday. Additional blocks of coverage are available at a surcharge, and a surcharge is also applied for service on equipment located more than 50 miles from the center of the city from which service is provided. Service outside the blocks of coverage and service for non-contract customers are provided on a hourly rate plus travel expense basis.

The overall pricing strategy has been to keep prices low on the hardware products that are still being actively marketed and to apply very aggressive price increases to the older products. The timing of the price increases is usually once per year, although increases are not implemented at the same time for each customer. For example, if a customer has several products of different types, the price increases will be staggered across several months so all products do not get increases at once.

The field organization has the authority to vary prices by up to 10% without approval from headquarters. In addition, the top 400 to 500 customers usually escalate pricing level issues into headquarters. The net result has been that price levels have been lowered and some of the option terms mentioned in Chapter VI areusually removed from the contract. Therefore the price levels vary by customer and the prices in the price book are not applied equally to all customers.

Hourly service billing rates are $95 per hour for Group A products and $125 per hour for Group B products. INPUT's 1988 survey of small-systems vendors with block-of-coverage-type service ranged from $110

per hour to $159 per hour. The large systems ranged from $156 to $180 per hour. Therefore, the Recognition Equipment rates are low compared to industry norms.

Recognition Equipment states that it has 98% of the U.S. installed inventory under maintenance contract. This is a very high loyalty rate compared to other companies. It also points out that almost no third-party maintenance competition exists for service on its products.

An analysis of 255 accounts that have either cancelled contracts for maintenance or plan to cancel revealed that the key reason for cancellation was the replacement of equipment by a later or a different technology. Maintenance price was not mentioned at all. Eight of the accounts switched to time-and-material service, and only two accounts cancelled because they were unhappy with the service provided.

In conclusion, it appears that the overall price level for service can be raised to improve margin without any significant impact on loyalty or new product sales. The hourly service rate can also be raised.

Consideration should also be given to placing more discipline in the management of the pricing process. For example, it is not clear that the 10% latitude given to the field on pricing or the apparent large amount of discounting to large customers are necessary.

A similar type of analysis should also be conducted for non-U.S. pricing.

VIII

Maintenance Parts

VIII
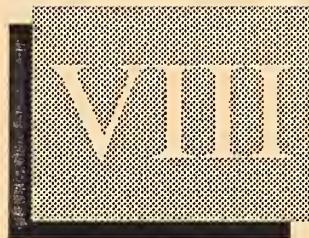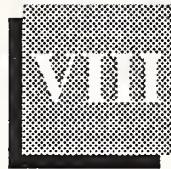
Maintenance Parts

Recognition Equipment changed the parts depreciation accounting procedure for high-value parts in 1988. The new procedure depreciates these parts over six years. In order to implement the procedure, Recognition evaluated parts purchases in prior years and made necessary adjustments to the net inventory. The net worldwide inventory dropped from $43.9 million at the beginning of the 1988 fiscal year to $34.9 million at the end of the year.

As mentioned earlier, the domestic organization also placed a key measurement on inventory as a percent of total revenue, and this has apparently had a significant effect on inventory levels. Exhibit VIII-1 displays the worldwide inventory trends for 1988 and 1989 and indicates that as of May 1989 Recognition has already achieved the net inventory planned for the year. Eighty-seven percent of this reduction was in the Dallas warehouse and the domestic field inventories.

Gross U.S. parts inventory at the end of May 1989 was $36.1 million. This was distributed as follows:

- Field Stock $12 million
- Good Stock-Dallas $11 million
- Waiting Repair-Dallas $12 million
- Waiting Scrap $ 1 million

The net U.S. parts inventory at the end of May 1989 was $20.1 million, which is very close to the total of the field stock and the good stock in Dallas.

The new Image product strategy utilizes existing hardware technology that has been enhanced with user friendly software. If this product is successful, it is possible that much of the inventory waiting repair may be useful in supporting the Image products. If this is the case, the net inventory may have to be revalued upwards.

EXHIBIT VIII-1

RECOGNITION EQUIPMENT CORPORATION
SERVICE PARTS INVENTORY
### (Net Book Value)
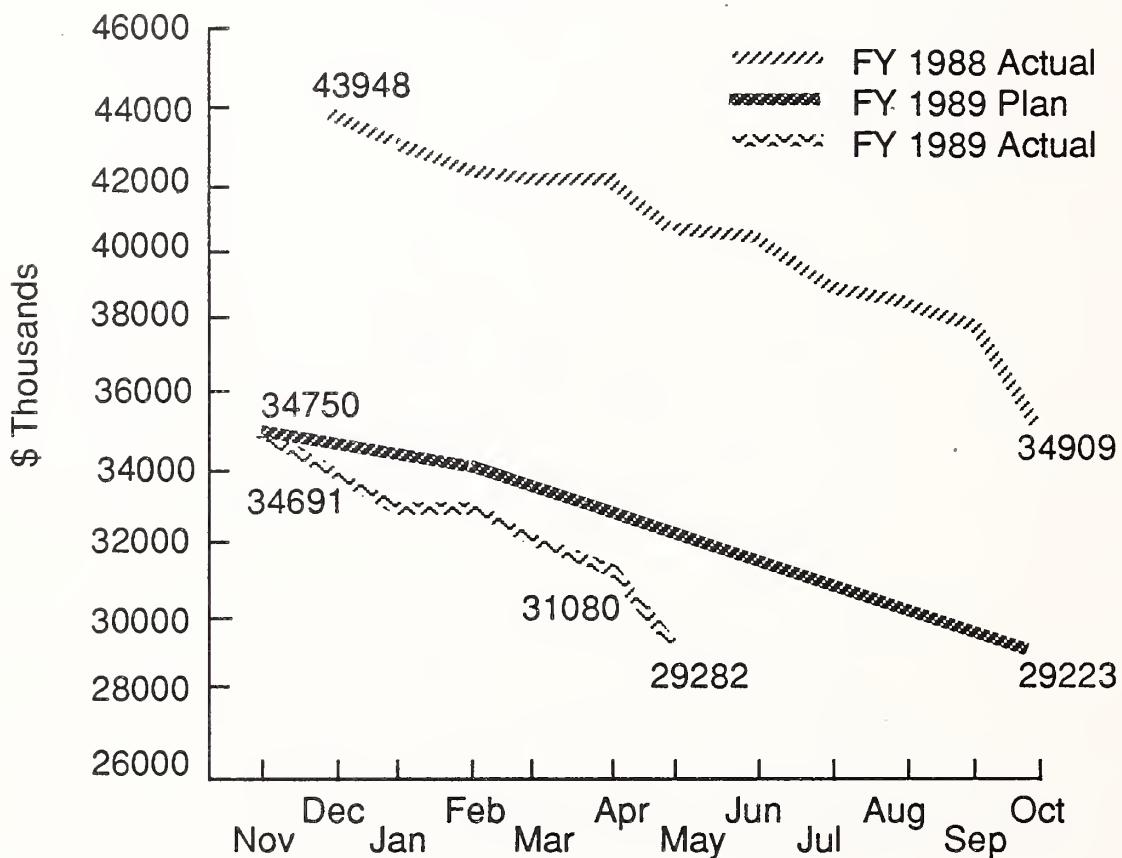
If the Image strategy is not successful and the installed service product base declines at a rate greater than the present forecast there is a risk that the six year write off may not be fast enough to account for the decline in net inventory value.
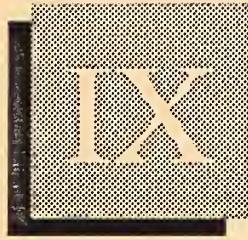
IX

Software Support and Programming

IX
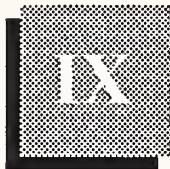
Software Support and Programming

At the branch office level, a plan is in place to cross-train all of the Field Engineers on all software and hardware. These people will also be used where possible for contract programming.

There are 27 dedicated software specialists in the customer service organization, 9 of which are in headquarters and the 18 in the field district organizations.

Revenue for software support for the first half of fiscal 1989 was $437,000 or a yearly rate of $874,000. This revenue was for remote support, new software maintenance releases (two per year), and on-site support when required.

Contract programming revenue for the first half of fiscal 1989 was $232,000 or a yearly rate of $464,000. A plan has recently been approved to transfer 14 system analysts from the field sales organization to increase contract programming revenue by an additional $1.5 million per year.

No definitive pricing information was available on software support, although it was estimated that about 5% of Recognition's revenue came from software license fees. Based on a 1988 domestic product revenue of $67.6 million, the estimated software revenue would be $3.38 million. The software maintenance revenue of $874,000 represents about 25% of the size of the product revenue. INPUT's 1988 forecast of software support was 20% of the size of the software product revenues on a national basis. This analysis would indicate that Recognition's software maintenance prices in the United States are above the national norm.

Customer satisfaction with software support is rated 7.0 on a scale of 1 to 10, with 10 being the highest degree of satisfaction. This score compares with INPUT's 1989 survey results of 7.5 for midrange systems and 7.8 for large systems vendors. Therefore, the Recognition Equipment score

is on the low side of the national norm and should receive attention, since the Image product strategy depends on a much greater percentage of revenue from software.

Income and Expense Analysis

X
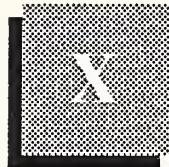
Income and Expense Analysis

Exhibit X-1 provides the actual history and Recognition's projected revenues and gross profits for customer service on a worldwide basis. The declining revenue base is due to the cancellation of contracts on equipment being replaced by different or newer technology. The decline would have been much greater if the new Image product line had not been announced and included in the future years.

EXHIBIT X-1

RECOGNITION EQUIPMENT—WORLDWIDE
FIELD SERVICE INCOME STATEMENT
($ Millions)

	Actual FY 87	Actual FY 88	Est FY 89	Fcst FY 90	Fcst FY 91
Field Service Revenue	124	131	121	116	117
Gross Profit	33	35	29	29	29
GPM (Percent)	27	27	24	25	25

The assumptions used for projecting the declining inventory were examined against recent history and found to be reasonably consistent. The U.S. plan versus actual data for the first six months of 1989 also came in very close to plan. The preliminary June 1989 data for the United States does show a $500,000 drop, in monthly revenue from May to June. If this continues to drop the U.S. could miss the 1989 plan.

INPUT was not able to find that any assumptions had been made in the planning process for price increases.

Exhibit X-2 presents an analysis of service revenue and profit by major areas around the world, based on information from fiscal year 1988. These figures include a management and technical support charge from the U.S. to the non-U.S. areas. Further analysis is certainly required but it appears that additional price increases may be possible in Europe as well as the United States.

EXHIBIT X-2

RECOGNITION EQUIPMENT
## FIELD SERVICE INCOME BY MAJOR AREA
($ Thousands)

	U.S.	Europe	Canada	Asia/ Pacific	Total
Revenue	65,650	51,633	8,485	4,820	130,588
Gross Profit	16,811	13,165	3,412	1,738	35,126
GPM (Percent)	25.6	25.5	40.2	36.1	26.9

Information from INPUT's 1988 study of revenue per total service employee is compared with the same information from Recognition Equipment in Exhibit X-3. Clearly Recognition is low by these comparisons. As stated earlier in the report, INPUT believes that price levels can be increased in the United States to improve this ratio. Also, additional improvements are possible in cost reduction and productivity.

EXHIBIT X-3

ANNUAL REVENUE PER TOTAL SERVICE EMPLOYEE

Company	Service Revenue ($ Millions)	Total # Service Employees	Annual Revenue per Employee ($ Thousands)
Apollo	77	700	110.0
Concurrent	83	650	127.7
Tandem	174	824	211.2
Idea Servcom	82	700	117.1
Recognition Equipment	121	1250	96.8

A
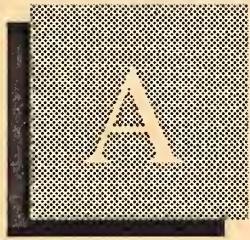
Appendix: Interview Question Outline
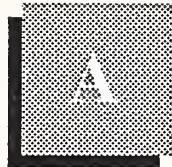
Appendix: Interview Question Outline

1.   Please give me a overview of your organization.

How you are organized?
What geographic territory you cover?
Who are your key customers?
How many customers do you serve?
How many people are in your service organization?
How do you handle technical support?
How do you handle off hour calls?
How do you handle software support to your users?

2.   What measurements of customer satisfaction do you have and how are you doing?

3.   What measures of employee satisfaction do you have and how are you doing?

4.   How are you being measured to determine your performance on the job? (i.e. Service Executives)

5.   How do you control the security of your parts inventory and your parts returns?

6.   How well is the parts logistics system working?

7.   What is the trend in service contract cancellations and what are the reasons for these cancellations?

8.   Who are your principal competitors and what are their strengths and weaknesses?

9.   How do you set prices on service contracts for hardware and software?

10. What is your plan for the remainder of 1989? What about 1990?

11. What are the key inhibitors of growth of revenue?

12. How do your prices compare with competition? How do your customers feel about your prices?

13. How do you handle engineering changes and software updates for your customers? How are these programs working?

14. What has been the trend during the past two years in service revenues and costs?

15. What is the status of your manpower versus your workload? How do you determine this?

16. What is the attrition record in your area of responsibility?

17. What backlog of calls do you normally start the day with per FSR?

18. What is the average number of calls per day per FSR?

19. What is your major concern today in the customer service area?

20. How do you identify prospective customers and how do you market to them?

If possible I would like to tour your facilities including your parts center and dispatch center.

I would like a copy of your service contract documents and copies of the various discounting or pricing options available to your customers for service.

B
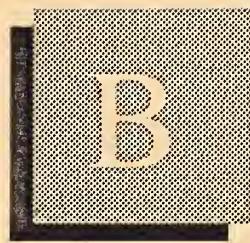
Appendix: Information Categories Requested
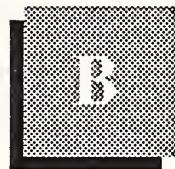
Appendix: Information Categories Requested

1. I & E for past two years by year

2. I & E for past 12 months by month

3. Parts inventory for two years by month

4. Parts inventory variance for two years (book versus physical)

5. Description of parts distribution network

6. Description of parts availability issues with suppliers

7. Parts inventory write-off for obsolescence for two years. Include a description of methodology used.

8. Attrition rates (two years)

    - Customers (number of contracts, total value)

    - Customer engineers (two years)

    - Managers

9. Terms and value of each outstanding employment contract

10. Product service inventory trends/major project for two years

11. Latest operating plan projections

12. Description of any existing support contracts with manufacturers and estimated dollar value

13. Warranty expense by product

14. Engineering change backlog

15. Software update backlog

16. Copy of service contracts

    - Hardware service

    - Software support

17. Summary data of recent customer satisfaction surveys

July 5, 1989